UNIQUE IDENTIFICATION (UID)

22-23 April 2003 – Standards Team Meeting Notes

Tuesday, April 22, 2003 (1/2 Day)

Attendees:

Frank Sharkey	UCC
James Petragnani	UCC
Mark Reboulet	AF
Dan Kimball	DoD AIT
Andy Jay	Pratt & Whitney
Matt Williams	AIA
Howard Mason	BAE Systems
Patrick Curry	UK NCB
Jon Andresen	Technology Solutions
Dr. King Yee	Boeing
Chris Denham	GEIA
Chris Sautter	DoD
Mitch Kaarlela	Lockheed Martin
Steve Winship	Boeing
Lt. Col. Greg Redick	DoD OSD
Jennifer Katers	Keane
Dan Rustin	Keane
Joe Saur	Keane
Max Westmoreland	TASC

Introduction

- Objectives for today
- Agenda for tomorrow
- Expected outcomes

Data Conversion Capabilities

- See file “Data Conversion 22 April 2003.ppt”
- Pratt & Whitney: 170 readers; use combo of 2nd, 3rd methods
- Business process servers (PC in the loop) is more expensive (Navy experience)

- Changes to the application is often the most expensive

Conclusion

- Many ways to mitigate costs; many ways to convert formats
- Number of units required affects total cost of conversion
- Application conversion is least desirable

Expectations for the use of UID data (short- and long-term)

Key Outcomes

- Answer three key questions:
  - What are the key data components?
  - Is the UID a separate mark/label on the item?
  - Can it be parsed?
- Separate what the database will need vs. what the UID needs
- Including an extra mark/label for UID will cause everyone to change their current marking/labeling schema when they may not have to
- Questions were answered as:
  - Key data elements are **enterprise identifier** and **serial number** for items that are serialized within enterprise and **enterprise identifier**, **serial number**, and **original part number** for items that are serialized within part number
  - The UID does not need to be a separate mark/label on the item, as long as the data elements required to construct the UID are present
  - Once created, the UID cannot be parsed
- Also, marks/labels that were used to create the original UID cannot be changed over the life of the item – new elements can be added, such as current part number, but the original elements must remain on the item
- Semantics exist today that can identify the different numbers on the part and tell what they are: what kind of EID code, whether it is a new part #, **how is it serialized**, which will lead to how to construct the UID
- Fourth field required in the database for the UID which will be created upon bringing the UID into the “system:

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- The preferred option is to also put it onto the mark/label
- If we are not putting UID on the part, the drawings (tech drawing) don't need to be modified
- However, in some instances, additional data may need to be added to the dataplate/mark/label to add pieces of the data elements required for UID

Question

- How will DoD deal with the 16-month gap between the July 2003 Policy publication and the ISO resolution process?

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Recap

- Changes to prior agreements
- See file "Recap of Decisions 22-23 April 2003.ppt"

Open Questions

- Ensuring lifecycle data integrity and quality is the responsibility of the database developers and managers, not this group
- Determine the solution for small parts that cannot accommodate a part mar
- Determine feasibility of this change based on:
  - Data labels
  - Direct part marks

Uniqueness Discussion

- Jon presented an example of a situation when two different companies using different enterprise identifiers and part-serial number schemas could result in the same UID
- Group decided that while it was theoretically possible, the risk was minimal and did not warrant changing the UID constructs

1-D Bar Code Proposal

- See file "1-D UID Policy Approach.ppt"

Semantics Discussion

- Ground rules:
  - Convince Greg, not each other
  - One speaker at a time
- If DoD wants a UID solution that does not impose a government-specific requirement, it makes more sense to accommodate multiple solutions (i.e., Perry Initiative)
- Multiple standards will cause DoD to incur the cost of UID
- Also, how many standards can be supported? If we move to an open-standard platform, the list could get large and unmanageable
- Eventually, the taxpayer will pay regardless.

- We can dictate one solution, and pay industry, or allow multiple solutions, and pay our AIT/AIS folks. Which one makes the most sense?
- One option is to pursue having current TS 21849 tags added to MH 10 as short titles for human readability
- Key concern is human readability for audit and quality control procedures
- MOD finds that roughly 50% of equipment costs are in aerospace
- If the ISO amendment process doesn't work, what is the solution?
- Aerospace industry cannot implement new semantics overnight, even if they wanted to
- Because aerospace processes are based on the data on the mark/label for reading, sharing, moving, and collaboration, there is a great (possibly unknown) risk to changing those processes (e.g., purchasing, warranty, line removal, shop repair, reliability, scrap, etc.)
- Disagreement over whether tags need to be part of mark/label, especially if label is not human readable (i.e., 2-D)
- History of ISO and aerospace industry was brought up
- Group expressed desire to move past historical issues but realized that ISO approval committee (SC 31) may have same issues during approval process
- Agreed to pursue current collaborative solution, as originally defined, understanding the risk of non-acceptance

Lunch

Technology Capabilities Demo

(Gary Moe)

- King sent collaborative solution to two vendors; the following demo will present table lookup and/or navigational approach
- Demonstrated data syntax translations (Conditions 1-4):
  - Legacy input >>> UID collaborative output
  - UID collaborative input >>> legacy output
  - Legacy input >>> legacy output
  - UID collaborative input >>> UID collaborative output
- Mobile parts marking system

- Syntax translation: software is in the scanner
- Legacy starts with EAN.UCC, MH 10, or 21849
- High contrast polyester labels (b/w - 80-90%) are nice but installed base is more low-contrast markings (e.g., laser-etching in metal, laser-bonded metal label, dot-peen markings, etc.)
- New technology can read low contrast labels
- MXI scanner is industry standard
- Intermec Freedom scanner will allow same conversions
- Machine vision; not “picture”.
- Change output format by scanning “instructional” mark/label
- Inputs / Data Carriers
  - 1D bar code
  - 2D bar code
  - Contact Memory Button
  - RFID
  - Smart Card
- Application Type
  - Thin client
  - Thick client
  - Web
  - Database access
- Parts Marking System: can program to print anything you want...
  - adhesive-backed labels
  - inject marking, laser cut stencils, laser marking
  - dot peen marking
  - laser bonding surface marks on metal parts
  - laser etch markings
- Single database to ensure uniqueness of serial number or serial number/part number combo.
- Can capture image of final marking in the registration database

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Implementation Working Group Briefing

- See file "Implementation Working Group Briefing.ppt"

DFAR Case Briefing

- This file will be sent at a future date
- The public hearing for the DFAR case change is currently scheduled for May 28, 2003

ISO Strategy

- Given the presentations by Mark and Gary, do we have to make the ISO request at all?
- Technology allows conversion but not all can afford it, we want to converge in the longer term for data reasons as well as cost
- There is a strong risk, given early indications, that the collaborative solution may not make it through ISO
- Weight of the burden of the rationale is aerospace
- Greg is willing to go to Mr. Wynne, but the aerospace people must come up with good rationale
- How can the process be sped up?
- May need to bring in additional people to help with statistics on costs, benefits, for rationale
- Plan to submit to three TAGs at one time: US, UK, Dutch
- MH 10 has requested that the US TAG allow them to make a recommendation prior to voting
- Some extensive lobbying may be in order
- Open question: What makes sense to put into the July policy memo to bridge the gap?
- Some opinions that we don't need ISO standard (e.g., Army still using old military standards)
- Plan is to proceed with ISO amendment process
- NP/business rationale team getting together in London between May 1-2

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EAN / UCC System Data Carriers and RSS Capabilities

- RSS developed for electronics, health care, limited real estate
  - RSS-14: 14 positions and stacked omni-directionally (e.g., grocery store usage; round produce)
  - RSS Expanded: Expanded stacked for additional info
  - Most are numeric only but expanded allows alpha
  - RSS w/CC-A/B/C:
    - A: 56 char
    - B: 338 char
    - C: 2361char
    - Used for produce, meat, jewelry, etc.
    - Top part is 2-D symbology and uses a (special) laser scanner
- RSS is about as far as you can go on linear
- Composite is a migration path to 2-D since the installed base is too large to move directly to data image

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Business Rules

- The following information shall exist on the part label:
  - EID
  - Unique serial number (w/in enterprise or w/in part #)
  - Original part #
- UID is derived from data that is required on the label
- UID shall be constructed of either:
  - (EID) + (unique serial # w/in EID)
  - (EID) + (unique serial # w/in p/n) + (part #)
- UID shall last for the life of the asset
- Part label shall last for the life of the asset
- Serial #s never change
- Enterprise responsible for uniqueness
- Semantics shall distinguish between:
  - serial # unique w/in EID
  - serial # unique w/in part # and unique w/in EID
  - current and original part #s
  - different types of EIDs
- All high-capacity AITs shall conform to 15434 (syntax)

Next Steps

- Other than the NP rationale, what is left for the standards group
- See “Work Item List v6.doc”
- This group coming to closure, we know what we have yet to do, but it is a do-able, finite set
- Done with business rules
- IWG should run their business rules by the standards group

Question

- Is it OK to start marking legacy/new parts with the collaborative solution (ISO barcodes) even if not in MIL-STD-130?
  - Programs that are prepared to move forward under the draft guidance, they may do so

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Next Steps

- Future meetings (all as previously scheduled)
  - 6 May telecon @ 11:00 AM Eastern
  - 20 May telecon @ 11:00 AM Eastern
  - 28-30 May F2F (time and location TBD)

GLOSSARY OF TERMS

ADC	Automatic Data Capture
AI	Application Identifier – ISO 15418 standard
CLF	Commercial Logistics Support Facility
Code 39	Barcode technology – earlier; less dense than 128
Code 128	Barcode technology – denser than 39
DI	Data Identifier – ISO 15418 standard
E-Card	
EID	Enterprise IDentifier
EPC	Electronic Product Code
HR	Human Readable
IAQC ???	International Association of Quality Control standard - Dot Peen Marking?
InfoGlyph	Another symbology
MH10	ANSI Committee standard “Material Handling”
Micro PDF	Electronics standard: Portable Data File marking
MRC	Machine Readable Code
MRO	Maintenance Repair & Overhaul
NIIN	National Item Identification Number
NMWR	National Maintenance Work Requirement (depot-level aircraft repair manual)
OEM	Original Equipment Manufacturer
OPM	Army Opportunistic Parts Marking
PDF 417	Portable Data File 417
PLU	Retail Price LookUp code
RSS	UCC/EAN Reduced Space Symbology
RSS-CC	RSS Composite Component

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GLOSSARY OF TERMS

SAE ???	US (dot peen standard)
SPI	Single Process Initiative
TCIF	TeleCommunications Industry Forum
TEI	Text Element Identifier – ATA SPEC 2000 (TS 21849) standard
UCN	Unique Component Number (remarked part)
USN	Universal Serial Number